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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,723	10/15/2003	Donald R. Martin	201376-9017	5385
1131	7590	09/02/2004	EXAMINER	
MICHAEL BEST & FRIEDRICH LLC 401 NORTH MICHIGAN AVENUE SUITE 1900 CHICAGO, IL 60611-4212			FISHMAN, MARINA	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 09/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/685,723	Applicant(s) MARTIN, DONALD R.	
	Examiner Marina Fishman	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/15/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

General Status

1. This is a First Action on the Merits. Claims 1-22 are pending in the case.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "a semi-conductive material in contact with the exposed ring" as recited in claim 1, and "a first semi-conductive material on the exterior of the vacuum chamber and contacting the exposed ring" as recited in claim 16, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

It is noted that figure 1, fails to disclose voltage screens and figure 4, discloses second (movable) voltage screen 220, encapsulated in the dielectric material 190 (which will not allow the screen to move).

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The

replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 16-22 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3 and 17, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim 16, lines 11-12 recites "encapsulating the vacuum chamber and voltage screens." It is not clear how the vacuum interrupter will function, if the second voltage screen 220 is encapsulated (second voltage screen 220 is disclosed as movable voltage screen, see instant specification page 6, paragraph 22, lines 1-2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luzzi [US 5,808,258] in view of Cherry [US 4,002,867].

Luzzi discloses a vacuum interrupter [Figure 1] comprising:

- dielectric encapsulation [80];
- a vacuum chamber molded into the dielectric encapsulation;
- the vacuum chamber comprising: a ceramic housing [62], end cap [92] sealing the housing, a floating shield [76] within the housing.

Luzzi discloses the instant claimed invention except for a semi-conductive material in contact with the exposed ring and disposed on a portion of the vacuum chamber ceramic housing, and a voltage screen connected to the end cap, the voltage screen overlapping a portion of the semi-conductive material. Cherry [Figures 1-8] discloses a vacuum interrupter with a floating shield [22] with an exposed ring [23], two end voltage screens [6, 15], and a semi-conductive layer on the outside of the insulating envelop [abstract, lines 8-12]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the floating shield in the interrupter of

Luzzi with an exposed ring and connect the exposed ring to the outside semi-conductive coating as suggested by Cherry, so that the floating shield voltage can be quickly discharged [Cherry column 3, lines 1-4]. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide voltage screens in the vacuum interrupter of Luzzi as suggested by Cherry, in order to force metallic vapor to take circuitous path before reaching the inner surface of the vacuum chamber [Cherry, column 2, lines 38-42].

Regarding claims 4, 5, 11 and 12, Luzzi in view of Cherry discloses the claimed invention except for the material for the voltage screen being perforated metal sheet or metallic mesh. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the voltage screen of perforated metal screen or metallic mesh, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

5. Claims 10-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luzzi [US 5,808,258] in view of Cherry [US 4,002,867] as applied to claims 1-9 above, and further in view of Bohme et al. [US 4,618,749].

Luzzi and Cherry substantially satisfies the limitations of claim 10, however, Luzzi and Cherry do not disclose the first and second voltage screens disposed within shielded encapsulation. Bohme et al. [Figure 1] discloses voltage screens [control electrodes 19, 22] disposed within shielded encapsulation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

provide voltage screens within shielded encapsulation as suggested by Bohme et al., in order to have better waste heat conduction [Bohme et al., column 3, line 35].


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marina Fishman whose telephone number is 571-272-1991. The examiner can normally be reached on 7-5 M-T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marina Fishman
August 17, 2004


ELVIN ENAD
SUPERVISORY PATENT EXAMINER
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